

Question on Notice

No. 43

Asked on Tuesday 12 February 2019

MRS S WILSON ASKED MINISTER FOR TRANSPORT AND MAIN ROADS (HON M BAILEY)—

QUESTION:

With reference to the Bribie Island Bridge—

Will the Minister provide (a) a list of dates for (i) level 2 Structural inspections and (ii) BIS level 1 inspections undertaken since January 2011, (b) details of any noted issues with the structure of the bridge from these inspections, (c) details of how cracking in one of the deep water piles noted in a 1994 inspection was addressed and whether this pile has ever been replaced and (d) details of any compromised crack in deck beams?

ANSWER:

I thank the Member for Pumicestone for the question.

The Department of Transport and Main Roads (TMR) has a statewide inspection, condition rating and monitoring framework to effectively and proactively manage its assets. TMR is guided by the Bridge Inspection Policy which ensures that the health of all structures is systematically monitored so that appropriate maintenance and rehabilitation interventions can be implemented when required.

Inspections of the Bribie Island Bridge are undertaken in accordance with TMR's *Structures Inspection Manual*. A description of the different levels of inspection are outlined below:

- **Level 1** routine maintenance inspections – visual inspection to check the serviceability of the structure, in particular for road user safety, and identify any emerging problems that require maintenance.
- **Level 2** condition inspections – detailed assessment and evaluation of the structure condition to identify current and future maintenance needs.
- **Level 3** detailed structural engineering inspection – extensive inspection that may include physical testing and structural analysis to assess the structure condition and behaviour, identify and quantify the current and predicted deterioration, and development of appropriate management or rehabilitation options.

Inspection frequencies are determined by the *Structures Inspection Manual* requirements and vary depending on the bridge condition and type. For the Bribie Island Bridge, Level 1 inspections occur every 12 months and Level 2 inspections occur every three years. For the years that a Level 2 inspection is undertaken, a Level 1 inspection is not necessary. A Level 3 inspection is triggered by the Level 2 outcome (when required).

The Level 1 and 2 inspections undertaken on the Bribie Island Bridge since January 2011 are listed below.

Level 1

- 19 November 2012
- 13 November 2013
- 19 October 2015
- 19 October 2016
- 10 October 2018

The next Level 1 inspection is scheduled to be undertaken on 10 October 2019.

Level 2

- 18 December 2011
- 12 October 2014
- 8 October 2017

TMR undertook a Level 3 detailed assessment of the Bribie Island Bridge in 1994 to investigate cracks identified in a small number of the bridge piles. Concrete core samples were taken and an inspection (by divers) of all underwater components was carried out.

This investigation determined that the cracks were limited to the exterior of the affected piles but potentially compromised their durability. Otherwise, all piles were determined to be structurally sound. In 1997, repairs were undertaken to these piles as a targeted measure to restore the component durability. This repair method was reinforced concrete encasement of the existing piles. No piles have been replaced.

Following the last underwater inspection in 2013 and a Level 3 review, it was determined that five piles needed similar repairs, including two that were previously repaired. This time a more modern and innovative pile protection method was adopted to restore the piles.

A Level 2 inspection was also carried out at that time, and, more recently, in 2017. No significant structural issues have been identified. Other maintenance issues and actions identified are:

- aging elastomeric bearings - monitor
- localised areas that require concrete patch repair (cross-girders and girders) - programmed for repair
- silt build-up/scour due to the strong tidal currents - monitor.

There are no compromised cracks noted in the deck girders.

The next underwater inspection of the Bribie Island Bridge is currently being arranged and the next Level 2 inspection is due to occur on 8 October 2020.